

scribed as a new species by Mr. W. W. Froggatt in 1913 (*Agric. Gaz. N.S.W.*, 24: 567). His specimens were found crawling about in the mucus on the windpipes, just below the mouths, of kangaroos at Moramana Station, Walgett district, N.S.W.

The fly was previously represented, in the entomological collection of the W.A. Department of Agriculture, by specimens determined by Dr. S. J. Paramonov. These were some larvae, and an adult female, which had emerged from a pupa, obtained from a female red kangaroo at Warambie Station, Roebourne, W.A., in 1938.

—L. E. KOCH, Department of Agriculture.

**Homing Performances by Senegal Doves.**—On September 2, 1960, I caught a Senegal Dove (*Streptopelia senegalensis*) in a mist net at my home at 184 Salvado Road, Wembley. It was transported, concealed in a gladstone bag, to the C.S.I.R.O. Wildlife Survey Section's Laboratory at 33 Caporn Street, Nedlands, where it was ringed (070-06630) and released. On October 12 it was re-taken in an automatic trap by Mrs. B. Tormey at 188 Salvado Road, Wembley, a distance of 3 miles north of its release point.

A second dove was trapped by Mrs. Tormey at 188 Salvado Road in the late afternoon of November 4, 1960, and ringed by me (070-01218) and released (after transportation, concealed in a box) at the corner of Warick Street and Wanneroo Road, 7½ miles north of its capture point. The dove was re-taken the following morning, November 5, by Mrs. Tormey at the original trap.

A third dove (070-06338) showed the best homing performances to date. It was caught and ringed at 184 Salvado Road on September 12, 1960. On November 3 it was re-trapped at 188 Salvado Road and released at 80 Matlock Street, Mt. Hawthorn (3 miles N.E.) It was re-trapped again at 188 Salvado Road on November 8 and released by Mr. A. Strawbridge at Upper Swan, about 17 miles N.E. On December 14 it was re-trapped for the third time at 188 Salvado Road.

Ringling of Senegal Doves, both at Caporn Street and Salvado Road, has indicated, through repeated recaptures, that these birds are highly sedentary and the performances of the three birds mentioned demonstrate that they will return to the home area even after being transported some distance away in a manner which precludes them from having visual knowledge of the route taken.

—R. H. STRANGER, Wembley.

**Parthenogenesis in the Moth *Zermizinga indocilisaria*.**—A study of the biology of the geometrid moth, *Zermizinga indocilisaria* Walker, made it appear that parthenogenesis occurs in this species.

In September, 1959, six small potted pines, *Thuja orientalis*, were placed in the biology laboratory at Guildford Grammar School. A few days later some twig mimicking looper caterpillars were seen eating the green leaves on the pines.

The caterpillars were overall pale brown in colour with darker brown patches, small black spots resembling bark scars distributed over the body breaking up the outline, and a stripe of greenish black

on each lateral surface. When resting, they attached themselves to a branch with their "tail claspers" and hung out at the same angle as the lateral branchlets of the pines with their ventral surfaces uppermost. In this position they resembled a broken twig. On close examination a fine thread, which served as a support, could be seen running from mouth to pine trunk. If the thread was cut the grub lost balance momentarily. After a short time it would bring its head up into contact with the branch again and replace the support.

On October 5 two brachypterous moths appeared on the bench where the pines were situated. They were gravid females, grey overall with black specks and black bands on abdomen and wings. Both specimens were collected and placed in separate containers.

On October 6 the moths were observed ovipositing. The eggs were green and were cemented to the walls of the container and to specimen labels, in groups of 15 to 20. One female produced about 350 eggs and the other approximately 370. Oviposition took place over 24 hours. On the 10th day (October 16) the eggs changed from green to a dark grey and then became black. On October 19 a great number of tiny black larvae emerged only to escape through the mesh on top of the containers. Eventually only 5 larvae were captured and placed on a potted cypress enclosed in a cage of fine nylon net.

The newly emerged larvae spun extremely fine silk strands which they used for aerial transport and bridging gaps. Most of the larvae that escaped migrated to the laboratory windows where they died on contacting insecticide. Freshly hatched specimens were approximately 2 mm. in length, they were black with occasional white bands on the abdomen and covered with very fine hairs. After the first moult they became grey-brown, matching the brown parts of the pine. There were possibly 5 instars and the last instar larvae measured approximately 30 mm.

On November 11 the larvae became sluggish and moved down the stem to the soil, where they burrowed to a depth of approximately one inch and pupated. The pupae were dug up and placed in separate containers.

On November 20, 4 moths emerged and on November 21 another moth appeared. All specimens were gravid females, they remained in their emergence containers and within 8 hours all had laid eggs. The eggs hatched into larvae on December 2 and these were released on to a covered pine. Unfortunately at this stage, due to other commitments, the investigation had to be temporarily abandoned but it is hoped to continue the observations at a later date.

No male moths were in contact with the females at any stage of the investigation indicating that parthenogenesis occurred.

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—PETER McMILLAN, Guildford.